

V. WORKSHOP SUMMARY

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The topic of tort liability as applied to roadside safety was enthusiastically discussed by the workshop participants. While the problems are numerous, there are steps that can be taken that will hopefully slow a mushrooming amount of litigation. Issues that seemed to surface repeatedly included the following:

1. There is an urgent need for continuing communication between all parties concerned, but particularly engineering and legal staff. Lawyers need to be notified quickly about cases that could lead to litigation, and engineers need feedback from lawyers about trends in litigation (leading problems, verdicts, etc). State-of-the-art practices in appurtenance design and maintenance need to be transmitted to all appropriate levels on the engineering side.
2. National guidelines need to be formulated in regard to when and how appurtenances should be upgraded.
3. There needs to be a national data bank of tort litigation developing, utilizing standardized codes and forms.
4. Good documentation of complaints, solutions, design manual changes, etc., is imperative.
5. Unethical witnesses are causing litigation problems to proliferate. Perhaps engineering, scientific and legal societies should undertake the task of accrediting individuals who desire to serve as expert witnesses.
6. TRB needs to consider the creation of a committee or subcommittee, composed of individuals of varying backgrounds, to stay abreast of the problem of tort liability and the roadside.

APPENDIX A FOLLOW-UP SURVEY PROBLEM SUMMARIES

Table A-1. Summary of Problems in Planning, Design and Construction.

1. "Innocent Bystander"

Many accidents involve the "innocent bystander". Examples are a median crossover accident, an accident in which a vehicle penetrates an overpass and strikes traffic below, an accident in which a vehicle encroaches into a rapid transit busway or railway, etc. Should more emphasis be placed on prevention of these types of accidents as compared to single vehicle, run-off-the-road accidents?

2. Use of Benefit/Cost Procedures

Increasing demands are being made of transportation agencies in the area of highway and roadside safety. Limited funds preclude immediate and full adoption of all recommended safety standards. Some agencies are now using cost effectiveness or benefit/cost analysis procedures to evaluate alternate safety programs and to establish priorities and

action plans. These procedures typically require that estimates be made of the monetary value of life, a very sensitive issue. Is this the most rational approach to establish priorities and policies? Do the courts view these as rational, acceptable procedures?

3. Unusual Conditions

Many accidents which lead to court cases involve "unusual" conditions: for example, cases involving motorcycles, high-ride, four-wheel drive pickups, recreational vehicles, cars or campers pulling trailers, trucks, and buses. Safety appurtenances are not designed or tested with these "special" vehicles, yet the plaintiff often contends that there should have been a safety device in place that could handle them. This problem raises the following questions:

- a. Should safety devices be designed to handle all types of vehicles legally allowed on state highways? On local roads?
- b. If not all types can reasonable be accommodated, which types can be?
- c. To what extent should the federal government encourage or regulate the use of "universal safety appurtenances"?
- d. Is there any way in which a state or local agency could "give notice" to vehicle operators that safety features on some or all roads have not be designed or tested with certain classes of vehicles, and the governmental agency is not responsible for any accidents involving safety features and these special classes of vehicles? In other words, could this be accomplished by the highway agency with signing, or by legislation (e.g., issuing warnings when vehicles were registered), or by requiring special high limit insurance for selected classes of vehicles?
- e. If more versatile safety appurtenances are desirable, inadequate funding for research and construction is the main roadblock to their development and implementation. What efforts should be made to increase funding? For example, should "special" vehicles pay extra fees to finance "universal" safety appurtenances? Or should all vehicle operators allowed on public roads have "equal" safety at equal cost to them?

4. Range of Impact Conditions

Accidents occur where vehicles impact a barrier at 45°-90° angle, while skidding sideways, while yawing rapidly or heading backwards, while braking so the car noses down under the barrier, etc. We do not design or test barriers for these conditions, yet sometimes plaintiffs contend that the barriers should function under these conditions.

- a. Should barriers handle a wider range of impact conditions?

- b. What are reasonable limits, if any, for barrier impact conditions? Should these limits be established and officially adopted by AASHTO? FHWA?
- c. Should an FCP project be initiated to conduct tests at some extreme conditions on standard barriers; for example, 90° impacts?

These test would clearly show that the barriers do have limits and might not be helpful under these impact conditions. Movies of these tests could be used for accidents where no barrier was present.

5. Construction Zones

Construction zones continue to cause problems.

- a. What safety standards now exist?
- b. What research or new standards are needed?
- c. How can standards best be enforced?
- d. Should construction zones have the same level of safety as up-to-date roadways?

6. Trial Date

Problems arise when legal cases go to trial several years after the accident and there is minimal information on the accident and on the highway condition at the time of the accident.

- a. What highway condition information is most helpful to attorneys such as photologs, as-built plans with all changes, etc.?
- b. Are multidisciplinary accident investigation team examinations helpful? Should their procedures be modified? Should they expand on the number of cases investigated?
- c. What type of traffic accident records are needed? How best provided?

7. Treating Utility Poles

Utility poles continue to be involved in a large number of serious single-vehicle accidents. Potential safety treatments for utility poles include crash cushions, guardrail, relocating the poles, underground lines, and breakaway devices. Guidelines are needed to identify when and how the poles can be treated cost effectively.

8. Guardrail End Treatment

Guardrail ends pose a serious hazard to motorists. Safety Treatments now in use include a twisted and turned-down design, the breakaway cable terminal (BCT), burying the end in a backslope, earth berms, and crash cushions. Litigation has arisen in some states as a result of the use of the turned-down design. While the turned-down end and the BCT designs do not meet all performance requirements, they have significantly reduced the hazard of the

stand-up, untreated end. What is the preferable design? Is more research needed to develop modified designs or new designs?

9. Spot Safety Upgrading

Because of increased development, older rural roadways frequently carry increased volumes at increased speeds. Planning agencies may propose and/or program improvements for realigning and/or upgrading these roadways to provide better levels of service.

- a. To what extent should spot safety upgrading be done in the interim? (Guardrail, tree, or utility pole removal, etc.?)
- b. What are the legal implications if local citizen opposition delays the implementation through harassment, stalling tactics or legal means, and accidents occur on the older roadway that does not include the latest safety features?

10. Design for Persons "Legally" Using Highway

Is it possible to develop a design driver for whom the roadway environment is designed, or is it necessary to design for all persons "legally" using the roadways?

11. Personnel Training

There exists a lack of communication of state-of-the-art engineering knowledge and research results to desing, construction and maintenance personnel at all levels. An innovative approach is needed that supplies these personnel with the latest technology in regard to highway safety appurtenances and other roadway features so that the technology can be applied sooner.

12. Feedback on Tort Litigation

Some highway department (e.g., California) maintain up-to-date surveys of their highway facilities, make periodic traffic counts, and maintain extensive accident records. All of these factors are necessary to set priorities for traffic safety improvements. However, highway departments are getting feedback on the number and disposition of tort claims involving their highway system. This is an important factor to be considered, because it is a strong indicator of public response to the safety problem.

13. Model Tort Liability Act

Following the guide of the Model Traffic Ordinance, a Model Tort Liability Act needs to be prepared and recommended to the states for thier consideration. The increasing exposure of state and local governmental units combined with the wide variety of approaches to liability for units of government make it desirable to have a nationally accepted Tort Liability Model. This model would be similar to the Traffic Laws and Ordinances Document. It would be intended to guide legislators on reasonable limits and exposure while

reasonably protecting the interest of the public.

14. Unqualified Expert Witnesses

There appears to be an increase in the use of unqualified or unethical expert witnesses, often lacking knowledge or objectivity. How can this problem be minimized? Should the engineering societies address this problem?

15. Timing of Adoption of Standards

Development of standards relative to new technology developed through research can be mistimed. Examples include passenger vehicle downsizing barriers for trucks and buses, and miltservice level criteria for traffic railings.

Table A-2. Summary of Problems in Operations and Maintenance

1. Restoring and Upgrading Safety Features

There are hundreds of miles of obsolete barriers and other roadside appurtenances still in existence. It is not feasible to bring all such hardware up to current standards, especially in light of the fact that standards frequently change. Questions that must be addressed are as follows:

- a. What type of upgrading program should highway agencies use?
- b. How should it be documented?
- c. How long is it reasonable to leave an obsolete barrier in place?
- d. Some older barriers may have vehicle containment properties but, on balance, are not quite as good as newer barriers. How can this concept be promulgated, that the older barrier is not extremely hazardous and obsolete just because it is no longer a standard, and that a newer barrier only has a few additional assets?
- e. Should obsolete hardware that is damaged by vehicular impacts or is in a deteriorated condition be replaced in-kind? When would it be appropriate to restore obsolete hardware to something less than full standards but better than the existing design?

2. Accidents at Hazardous Locations

Problems arise when accidents occur at locations that have a history or reputation as being hazardous.

- a. When citizens make complaints about a "hazardous" roadway, what is the best way to handle these complaints, in light of possible future legal cases due to accidents at those locations?
- b. Should highway agencies do periodic inventories of highway locations that need safety improvements? How should these be documented? What language should be used?

c. What is a reasonable time period in which to upgrade these locations?

d. To what extent is lack of funding an excuse for delaying improvements? How should this be documented?

3. Failure to Follow Design Manuals

Problems arise when highway agencies do not follow their own manuals; for example, by not installing a median barrier as soon as it is warranted to the manual.

- a. How should manuals and other policy guidelines be written to minimize problems?
- b. If a highway agency has insufficient funds, for example, to do maintenance work mandated in a maintenance manual, how should this be documented, both at the state agency level and at the local maintenance station level?
- c. How often should manuals be reviewed and updated?
- d. How often should design, construction, operations, and maintenance people be given refresher training on agency standard specifications, plans, manuals, procedures, test methods, etc.? How critical is training in the prevention of legal problems? What type of training is most useful?

4. Problems of Communication

Problems arise because of lack of communication between the engineering and legal divisions of highway agency.

- a. What forms of communication would be useful other than that occurring on individual legal cases?
- b. Would a permanent joint committee of engineers and attorneys have any value?
- c. Would it be helpful if the legal division prepared an annual report summarizing the types of engineering problems they had encountered in legal cases the previous year?
- d. Many cases are similar and require a collection of the same set of reports, standards, movies, etc., by the engineer for the attorney. Is there value in preparing a standardized basic packet of information for common types of legal cases to reduce engineering time and insure completeness of coverage? Should agencies prepare, for example, a "history of median barrier" which includes all previous standard plans and specifications, and describes changes in design, warrants, etc., through the years? Is there a reason why attorneys would prefer not to have these histories or information packets in existence?

- e. What are the pros and cons of having engineers and/or attorneys who specialize in certain types of cases?

Sometimes attorneys and engineers do not realize pertinent information is available, either within their own agency or from other states. For example, many agencies are unaware of edge-of-pavement dropoff tests the California Department of Transportation did 10 years ago, or the ones done recently at the Texas Transportation Institute.

- a. Would there be value in having a specialized information service related to highway safety design and tort liability cases?
- b. Would a new TRB committee or a permanent subcommittee of TRB A2A04 be helpful in keeping highway agencies informed of current research and other information sources?
- c. Could one or more transportation libraries compile automated bibliographies on selected highway safety subjects that were directed toward engineer and attorney users?
- d. Would it be useful to have a periodical in which highway safety cases were reported briefly in simple language? Does such a periodical exist now?
- e. What training classes should agency attorneys provide agency engineers and vice versa?

5. Need for Vegetation Control

How can problems of reduced sight distance, large trees in the clear zone, and grass and/or ground cover around breakaway sign and luminaire supports be minimized?

6. Maintenance of Safety Features

Agencies are reluctant to adopt rigid inspection procedures and schedules could be cause for liability. Further, limited manpower and resources often preclude the feasibility of regularly scheduled inspections. How can routine maintenance be achieved in a timely manner? When is operational maintenance justified over preventative maintenance, if at all?

7. Roadside Features Not Controlled by Highway Agency

Where roadside features contrary to good safety practice are required or mandated by "others", how do we protect ourselves or assign the responsibility? Such things as utility poles, trees, monuments, etc., should be considered. What about "safety" easements to control hazards near the travel way but not in the right-of-way?

8. Pavement Surface and Edge Discontinuities

Pavement surface and pavement edge discontinuities (potholes, edge dropoffs, dips,

bumps, etc.) continue to be alleged causes of many accidents. Recent studies have provided insight on this problem, but questions still remain. The basic question is when and how should corrective measures be taken?

APPENDIX B - LIST OF ATTENDEES

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BERKMAN, David L., Deputy County Attorney, Tucson, Arizona

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